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AUTHOR Gephart, William J.; And Others
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ABSTRACT

This document reports on a "mini-conference" on the contributions of educational research in the past ten years. Significant research projects in the following eight major areas are identified: (1) human development and learning; (2) teaching; (3) equality, inequality, and human rights; (4) educational finance; (5) educational administration; (6) educational technology; (7) program improvement and assessment; and (8) research methodology. Specific papers and research projects in each of these areas are cited. The contributions touch a great number of topical areas such as characteristics of learners, preparation of professionals, longitudinal studies of educational effects, educational objectives, and moral values. The listing offers a range of problem-solving strategies available to educators and the appropriateness of each strategy for resolving problems. (JD)

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OCCASIONAL PAPER 16

THE MOST SIGNIFICANT EDUCATIONAL RESEARCH CONTRIBUTIONS OF THE PAST TEN YEARS

by

William J. Gephart
Phi Delta Kappa

In collaboration with
Berlie Fallon, Anton J. Netusil,
& William K. Poston, Jr.

FROM

CENTER ON EVALUATION DEVELOPMENT AND RESEARCH

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PREFACE

Educators' attitudes toward, and in support of, research have changed markedly in the past decade. At the start of that period the situation was almost overwhelmingly positive. At its conclusion the attitude has become very negative, frequently expressed in a denial that research makes *any* contribution to education. To counter that attitude a "mini-conference" on research contributions was scheduled in advance of Phi Delta Kappa's Thirty-fourth Biennial Council. That mini-conference identified and discussed research contributions to education in the past ten years.

The reactions of the participants in the mini-conference and inquires related to a transcript of the proceedings have led to the printing of this Occasional Paper. The major presenters in the mini-conference assisted in the preparation of this manuscript. They deserve major credit for any contributions it may make. Inadequacies in it of any form are the responsibility of this writer. With that in mind, a large portion of appreciation is herein accorded to Drs. Berlie Fallon, Anton J. Netusil, and William K. Poston, Jr.

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THE MOST SIGNIFICANT EDUCATIONAL RESEARCH CONTRIBUTIONS OF THE PAST TEN YEARS

Research in education has witnessed a swing of the pendulum of acceptability during the past decade. At the start of that period, research was blessed with a halo that was of nearly blinding brilliance. Jacques Barzun captured this attitude toward research as he wrote:

> History records no precedent to this extraordinary adulation of research unless it be that of the Middle Ages to pilgrimage. When it prevailed, I doubt if anyone who was impelled to save his soul by going to a distant shrine was ever restrained by his friends. He would take off his shoes, pick up his stick, and go forth with everyone's blessing, just as today the research-bent abandons his occupation, picks up a box of index cards, and is on his way with shining eyes and a two-year grant amid general admiration. The very phrase "do research" shows that it is the act, not the goal, that matters, and though not many think of research as saving their souls, society at large does believe that there is salvation in it. (Barzun, 1964).

At the other end of the decade and the pendulum swing, the attitude toward research is one characterized by John Brademas as he said,

> . . . many members of Congress are not really clear about what research in education is and, whatever it is, are not sure that research makes any difference in improving teaching and learning. (Brademas, 1973).

Many practicing educators share the opinion attributed to Congressmen. To them educational research is, at best, of doubtful utility, and, at worst, a waste of scarce resources.

In an effort to move this acceptability pendulum back toward

the middle, a Mini-Conference focused on "The Most Significant Contributions of Educational Research During the Past Ten Years," was scheduled as a presession to Phi Delta Kappa's 34th Biennial Council and First Annual Conference on Educational Issues (Houston, 1973).

Three educators with different backgrounds and educational positions were asked to identify the research work of the past decade that resulted in significant contributions to the field. They were directed to use whatever means they considered appropriate to determine their nominations. Procedural suggestions were made regarding the possibility of a survey, the use of their professional experiences and study over the past decade, the changes in educational operations they had observed during the decade, etc. Although the initial request asked that they identify the ten most significant contributions, the number ten was not a hard and fast standard.

In the invitation to participate, it was suggested that significant contributions did not result from an individual research project. Rather, it is likely that some critical mass of research findings must be accrued before significant contributions are realized.

The three participants and their background were:

Dr. Anton J. Netusil, Iowa State University, Department of Educational Psychology (Instructional responsibilities in the areas of statistics, measurement, research design, and evaluation)

Dr. William K. Poston Jr., Assistant Superintendent, Educational Services, Mesa Public Schools, Mesa, Arizona

Dr. Berlie Fallon, Texas Tech University, Associate Dean for Graduate Studies, College of Education, Texas Tech University (Formerly Executive Secretary, West Texas School Study Council)

Different approaches were taken by the three presenters in the conference, both in the manner in which they identified important contributions made by research, and in their means of

illustrating those contributions. In the latter area two of them cited specific studies as illustrative of the type of contribution made. The third presenter cited general topics, in effect, brief syntheses of many individual studies which have been combined during the past decade in a way that has been extremely beneficial to education. In all, twenty-three specific studies or topics were presented. Those twenty-three items have some commonalities which make it possible to group them in clusters as shown below. The order of presentation of these clusters should *not* be considered as an effort to rank them in terms of importance. Each of the three presenters recognized that a ranking would only be possible if a common value system and a common set of educational needs exist.

The categories of research contributions thus identified and the illustrative studies are:

HUMAN DEVELOPMENT AND LEARNING

Stability and Change in Human Characteristics. Bloom, Benjamin, New York, Wiley, 1965.

An especially noteworthy compilation and interpretation of available longitudinal studies on factors related to human behavior. A must for all researchers in the field of education. The review of this mass of research leads Bloom to hypothesize that at the point of greatest rate of change on some human characteristic, related educational efforts have their highest payoff. This hypothesis leads to the conclusion that more resources should be concentrated at the elementary level than other levels of the education system.

The American High School Student: The Identification, Development, and Utilization of Human Talents. Flanagan, John et al., Pittsburgh, 1964. Project Talent Office.

Cooperative Research Project 63e. The major objective of the overall TALENT Study was to determine which educational experiences best prepare students for their life work and what factors influence young people in choosing careers. Researchers also hoped to find out what patterns of ability and personality have a bearing on success and achievement in life. A further

objective was a compilation of a data bank on the abilities of young people.

The initial project TALENT data were gathered in 1960; 401,000 ninth through twelfth grade students from more than 1,300 high schools were surveyed. These students were again questioned one year after completing high school and five years later to determine the extent of their additional education, its value to them, and the occupations in which they are now engaged. It is also planned that the students be again surveyed 10 and 20 years after graduation from high school to obtain additional data for improving both the guidance and educational programs used with the next generation of students.

Findings from this project already have been reported in terms of school size, class size, scholarship requirements, and vocational education. Major deficiencies in educational programs were characterized with the aim of correcting them. To remedy deficiencies AIR, the Westinghouse Learning Corporation, and the 14 forward-looking school districts, initiated Project PLAN (A Program for Learning in Accordance with Needs). From Project PLAN a number of modern decision-making and operating procedures were reviewed and implemented - such as cost-effectiveness planning, systems engineering, and scientific research approach.

The Conditions of Learning. Gagne, Robert M., New York, Holt, 1965.

A lucid and illuminating discussion of the process of learning intended for use in designing better education, this report is based on the theory that complex forms of learning require simpler forms of behavior as prerequisites.

"Moral Development and Moral Education." Kohlberg, Lawrence, and Turiel, E., In G. Lesser (Ed.), *Psychology and Educational Practice.* Chicago: Scott Foresman, 1971.

Kohlberg and his fellow researchers have continually demonstrated the stages and principles of moral development. This article describes the role of moral education in the developmental process.

Taxonomy of Educational Objectives: The Classification of Educational Goals Handbook II: Affective Domain. Krathwohl, David R., Bloom, Benjamin J., and Masia, Bertram B., New York, David McKay Co., Inc., 1964.

With Handbook I, the *Cognitive Domain*, this work has been discussed as a "classic" and a "landmark." The two attempt to bring order to our basic conceptions and work related to objectives that are affective in nature. They provide terminology with highly specific definitions, and structural relationships with which to relate such objectives. Handbook II specifically deals with the concepts related to the theories of affective development. These contributions have led to better designed materials for basic skill development.

Scientific Creativity: Its Recognition and Development. Taylor, Calvin W., and Barron, Frank, Eds., New York, Wiley, 1963.

A collection of 31 research papers from the First, Second, and Third Research Conference on the Identification of Creative Scientific Talent. Discussed is the fundamental nature of scientific creativity in an effort to develop means of measuring and nurturing it with appropriate educational programs.

Relevance Renewed.

The development of procedures for projecting future educational needs and a resulting improvement in ability to focus problem solving activities to meet those needs has increased the contemporariness of education for the learner. The procedures referenced are those described in the works of the Education Policy Research Centers at Syracuse and Stanford Universities. They make possible the determination of alternative descriptions of the future with information that suggests the nature of changes needed to achieve each alternative.

TEACHING

Teacher Training and Staff Development.

A number of research efforts have contributed to improvement of teacher and staff training. These efforts have improved the understanding of the role of teaching in relation to the learning process, improved the ability to develop teaching skills

through micro-teaching, improved the evolution of alternative methods fo. assessing teaching competence, and have given greater clarity of components of the teaching process.

The Role of the Teacher in the Classroom: A Manual for Understanding and Improving Teachers Classroom Behavior. Flanders, Ned A., and Amindon, Edmund J., Minneapolis, Paul S. Amindon and Associates, 1963.

A description of some conditions and tools necessary for understanding and improving teacher behavior in the classroom. Based on the assumption that especially through a program of in-service training, a teacher can be helped to define his own concept of desirable teacher behavior and to subsequently modify his behavior accordingly.

Schools Without Failure. Glasser, William, New York, Harper and Row, 1969.

Dr. Glasser, a psychiatrist, outlines strategies providing a much greater likelihood of involving the student in learning experiences than those currently in use in most schools. Glasser effectively develops and demonstrates several major points: (1) emphasizing *thinking* rather than memorization can be a powerful motivation for youngsters to succeed in school; (2) a great deal of what is actually part of the child's life at his age period should be included in the work of school; and, (3) the schools should adopt those new techniques for involving children in schools that are already available and more must be developed. Glasser believes that schools are failure-oriented. He means failure in the process of learning, not necessarily failure to pass from one grade to the next. Glasser offers operationally sound suggestions for a success orientation that will engage students in a rewarding pursuit of learning.

Pygmalion in the Classroom: Teacher Expectation and Pupil's Intellectual Development. New York, Holt, Rinehart and Winston, 1968.

Presents a thesis, based on experiments conducted in South San Francisco and other school districts, that the teacher's subtly transmitted faith in the student's ability to succeed is a determining factor in the student's actual performance. This

book, although its methodology has been seriously questioned, raises questions about pupil-teacher relationships that cannot be ignored.

EQUALITY, INEQUALITY AND HUMAN RIGHTS

Equality of Educational Opportunity. Coleman, James, and Campbell, Ernest, Washington, U. S. Dept. of Health, Education and Welfare. Office of Education, 1966.

Equality of Educational Opportunity provides data for debating the assumption that increasing expenditures in low-cost schools will enhance educational opportunities. The study was directed by Coleman and Campbell in 1965 and 1966. Data collected from a large sample of schools and students suggest that differences among American public schools in class size, buildings, equipment, teacher skills, library services, and other inputs that can be easily changed by spending more or less money, seemed to have relatively less effect on student success in school than does social class. The Coleman conclusions are not universally accepted, however. In particular, the type of averaging of school data in the Coleman analysis is thought by some scholars to minimize the effect of better school financing on student learning.

Inequality: A Reassessment of the Effect of Family and Schooling in America. New York, Basic Books, Inc., 1972.

This study looks at the effects of family background, years of schooling, and IQ scores on adult success. It also probes many of today's most troubling questions concerning tracking, school expenditures, the effects of school integration on black and white, and other controversial issues. Such conclusions as that schools are incapable of equalizing intellectual achievement and are unable to eliminate the social and economic disparity between rich and poor or black and white have lead reviewers to acclaim this book as a "potentially liberating force for American education." Jencks' conclusions are the result of a three-year study by an eight-member Harvard research team supported by a $500,000 grant from the Carnegie Corporation.

"How Much Can We Boost IQ and Scholastic Achievement."

Jensen, A. R., *Harvard Educational Review,* 1968-1969, *39,* 1-123.

This article reports the author's findings that support the claim of interracial genetic differences when measuring IQ. The article triggered debate of the magnitude of inheritance or environment as determiners of intelligence. The debate has resulted in factions on either side and has rasied questions of the morality of research efforts which investigate phenomena of this sort.

Humaneness of Education.

Studies of minority and ethnic groups, the human and civil rights and responsibilities of students and teachers, and explorations of alternative forms of education have contributed to education programs that are more responsive to individual learners and the quality of their experiences.

EDUCATIONAL ADMINISTRATION

Preparing Educational Leadership for the Seventies. Culbertson, J., Farquhar, A. H., Gaynor, A. K., and Shible, M. R., Columbus, Ohio, University Council for Educational Administration, 1969.

A report of a 1969 UCEA effort setting forth some of the more progressive conceptualizations and plans for the preparation of school administrators.

EDUCATIONAL FINANCE

Educational Financing Court Cases

Serrano vs. Priest

On August 30, 1971, the Supreme Court of California decided by a majority of six to one that the system of financing schools in the state through local property taxes violates the Equal Protection Clause of the Fourteenth Amendment to the U. S. Constitution. The California decision raised questions about the legality of the entire system of financing public education. It found that state efforts at equalization are "inadequate to offset the inequalities inherent in a financing system based on widely varying local tax basis."

The Western Center on Law and Poverty filed the Serrano Case

on behalf of poor people in Los Angeles who were concerned about inadequate and unfair financing of the public schools in the poor neighborhoods. The Serrano Case is more specifically Serrano vs. Priest--Mrs. Ivy Baker Priest, Treasurer of California. It might be more accurate to identify the real defendant as state legislature. The Superior Court judge agreed with the state defendants that even if the facts were true, the situation was illegal, and the case was dismissed. After a case in the Court of Appeals, which the plaintiff lost, the Supreme Court of California decided to hear the case and the court ruled for the plaintiff parents. The decision placed the State of California in a legally untenable position. Its 50-year-old school tax system had been ruled unconstitutional. The decision was reversed by the United States Supreme Court.

Rodriques Case

On December 23, 1971, the Federal Court in San Antonio, Texas, struck down the Texas law governing the funding of that state's public school system, again basing the decision on a violation of the Equal Protection Clause of the 14th Amendment.

Dusartz vs. Hatfield

In October of 1971, the Federal District Court in Minneapolis filed its opinion in *Dusartz vs. Hatfield* approving the Serrano decision and declaring the Minnesota method of financing its public schools unconstitutional because it violated the Equal Protection Clause of the 14th Amendment.

These three cases have called attention to a crisis of educational finance and raised serious questions about the established means of fund raising - taxation of property. They have also provided the impetus for the search for alternative forms for educational funding.

EDUCATIONAL TECHNOLOGY

Computer-Assisted Instruction. Suppes, Patrick, et al., The 1966-1967 Stanford Arithmetic Program, New York, Academic Press, 1969.

Suppes' writings have continuously demonstrated the uses of

computer-assisted instruction. His early work led the way to further improvements in CAI.

The Evolution of the Instructional Product Development Process.

During the decade educators' understanding of the development process has expanded. The creation of tools for doing educational work has moved from an unfocused, woefully underfunded, erratic class of operations to one that is modestly funded and usually carried out in systematic and public ways. This has come about through increased funding for educational development efforts, the influences of general systems theory and systems analysis, and the gradual acquisition and improvement of knowledge about learning. The developments in this area have resulted in improved instructional products which make it possible to move from a fact focused curriculum to one that is focused more on the processes of learning.

PROGRAM IMPROVEMENT AND ASSESSMENT

Educational Improvement Project: The First Five Years. Atlanta, Georgia, Southern Association of Colleges and Schools, 1969.

This report describes a six-year effort to improve education in the Southern states. The Education Improvement Project (EIP), a brainchild of the Southern Association of Colleges and Schools, worked toward implementing the goal of accountability at all levels of education. This report describes the original project in terms of goals and programs. It is not a evaluation report of the EIP.

A Foundation Goes to School: The Ford Foundation Comprehensive School Improvement Program 1960-1970. New York, 1972.

This report subtitled, "The Ford Foundation Comprehensive School Improvement Program 1960-1970, traces and analyzes the results of a major Ford Foundation effort throughout the 1960's to improve public education. It was characterized by the objective of legiticizing the concept of innovation in public school programs. The report was the product of an independent assessment team headed by Paul Nachtigal. This valuable document should be useful to historians and educational researchers

for its well organized description of an effort by one of the leading foundations in the United States.

RESEARCH METHODOLOGY

Methodology of the Educational Research Process Itself.

Marked improvements have been made during the past ten years in our technical ability to carry out studies on education and educative processes. Few new techniques have been created during the past decade. The improvement has come in the form of better knowledge about and skills in conducting research. More individual educators are capable of performing an analysis of variance, regression analysis, multivariate analysis, etc., than was the case in earlier decades. As a result, the research based information added to our generalizable knowledge has increased in amount and quality.

Access to Research Information.

During the past decade the development of ERIC and the numerous information services that make use of the ERIC collection make it possible for any interested educator to acquire up-to-date information about almost any educational topic. Although not a direct contribution of research in education, the information storage and retrieval systems now make it unacceptable for an educator to remain uninformed on pressing educational problems.

A SUMMARY THOUGHT

The above list of nominations for importance as research contributions touches a great number of topical areas - characteristics of learners, preparation of professionals, longitudinal studies of educational effects, educational objectives, and moral values, to name but a few. Underlying the list, however, is a development - an advancement of knowledge during the past decade - that merits recognition. That development encompasses the range of problem solving strategies available to educators and the recognition of the appropriateness of each strategy for resolving a class of problems. This development has at least two roots: increased understanding of the nature and classes of "problems," and the

evolving awareness of similarities AND differences between the evaluation, development, and research as problem solving strategies.

"Problems" according to McDowell (1966) have three components. The first is an intention of some sort. The second is the existence of at least one barrier or impediment. The third component of any problem is the connective that links a barrier or barriers to a given intention. Unless all three of these components are present, a problem does not exist.

"Problems" can be classified by identifying categories of intentions such as: intention to know, intention to choose, intention to do, intention to manage, etc. An intention to know becomes a problem when it is determined that the information to be known does not exist in society's knowledge bank. The topic either has never been studied or those existing studies are inconclusive. An intention to choose occurs when one is forced to select one or more alternatives from a set for different treatment or action. Such an intention becomes a problem when comparative information about each of the alternatives is not available. The intention to do becomes a problem when the tools or procedures available will not accomplish the task at the level desired.

For each of these categories there is an appropriate solution strategy, namely, research, evaluation, and development. During the past decade some educators have developed the ability to analyze and classify problems and thus, to select more appropriate and efficient resolution strategies for their solutions. This ability, problem analysis and resolution strategy selection needs to be learned by more educators during the coming years, since it is widely accepted that the strategy selected for solving a problem materially determines the nature and the quality of the solution.

Educators must learn that the research process cannot be employed to solve all kinds of problems. The strategy just is not up to the task. We cannot create new instructional tools and procedures by application of the research process. Research can be conducted to determine effects of instructional tools and

procedures or to gain information that might be useful in creating them. It is not a strategy for creating and/or inventing the vehicles, the tools and procedures, we need to do educational tasks. By the same token, the research strategy will not resolve a problem in which an intention to choose is the central component. The product of research is information which either describes some population on a specified variable or variables, or information which supports or fails to support a conclusion about the truth of some hypothesis. Neither of these outputs is sufficient to provide the comparative information needed to select from some set of alternatives. Finally, the evaluation process is not sufficient for problems in which an intention to do is the central component. If no tool exists or if one exists but use of it fails to provide the desired output, there is nothing to compare. In such a case a strategy for comparison will not solve the problem.

Two points need to be made in conclusion. First, these three strategies are frequently called for in the resolution of an educational problem. Second, the failure to recognize the differences among these three solution strategies will lead to further erosion of support for research in education.

A project which starts as a solution to an "intention-to-know-problem" calls for an application of the research process. As that effort progresses, it *may* encounter a situation in which data needs require the creation of a new measuring instrument. In such a case, an "intention-to-do-problem" has been encountered. A new measuring tool must be created. The development process should be utilized until an acceptable measuring tool has been created and validated. When that is accomplished the project returns to the research process. In some research efforts the researcher may know of several measuring tools for generating the data, one of which will be used. In this instance a choice must be made and the evaluation process should be employed. The same point can be made regarding projects which begin as evaluation efforts. Situations calling for comparison may also require creating measurement tools or the generation of some new knowledge necessary in the choice making. In those instances the project management should recognize that either the develop-

ment or research process should be employed to resolve the immediate problem, and thus make it possible to continue the evaluation effort effectively. And, of course, this point is equally applicable to development efforts. Developing a specific tool can sometimes be stymied for the lack of information of a certain type. In such instances, research to produce the needed information is required before the development effort can be effectively advanced. In other situations the developer may encounter two or more items that could be used as a component in the tool he is developing. Choosing the best one requires evaluation of the alternatives. Again, the use of these other strategies is purposive - to resolve sub-problems encountered in the reso tion of the major problem.

Failure to recognize the nature and utility of these strategies will result in major loss of confidence in the utility of research on the part of educators, policy makers, and the lay public. To some extent this has already happened. A school system's research department that provides generalizable information about the nature of reading problems will not satisfy a school board request to find ways of teaching children to read. The research process creates knowledge, and knowledge seldom, if ever, does work. Educators have turned to the research process for systematic resolution of all problems for a long time. The circumstances that now impinge - tighter money, rapidity of social and technical change, and the demand for accountability - call upon educators to become more efficient problem solvers; an efficiency that demands our efforts become more purposive and responsive.

Educators at all levels need to learn five things about the evaluation, research, and development strategies.

1. What is the general nature of each strategy?
   a. Evaluation is a comparison strategy.
   b. Research is an analysis strategy.
   c. Development is an invention and design strategy.
2. What is the nature of the problem for which each is an appropriate resolution strategy?
   a. Evaluation - intention to choose one or more alternatives from a set/barred by a lack of information which

relatively weighs each alternative on a relevant set of criteria.

b. Research - intention to know some generalizable fact or principle/barred by the lack of any prior study of the unknown or inconclusiveness of the existing studies.

c. Development - intention to do some educational task/ barred by the lack of tools or procedures for doing the work at the desired level.

3. What are the general process components of these strategies?

a. Evaluation has three basic process components.

1) Delineating the nature of the needed comparative information by describing the alternatives to be considered and the criteria to be used in determining their relative worth.

2) Obtaining the necessary data, and through analysis, converting it to information.

3) Reporting the information - communicating to the decision makers.

b. Research has four basic process components.

1) Review of what is known to sharpen conjecture about the nature of the unknown and knowledge of the techniques for investigating it.

2) Replicating the natural phenomenon with measures built in to provide data.

3) Analysis of the data to confirm or disconfirm the "truth" of the conjecture.

4) Reporting conclusions about what is now known.

c. Development has four basic process components (Clark & Johnston, 1970).

1) Determine function, purpose, or mission to be accomplished.

2) Design ideal systems for accomplishing that function.

3) Develop optimum solutions system - best system currently possible for achieving that function.

4) Deliver the results - install and operationalize the optimal solution system.

4. What are the products of each strategy?

a. Evaluation provides information for determining the relative worth of a number of alternatives.

b. Research provides information about phenomena - statements of fact or principles - that have general applicability across space and time.

c. Development provides working systems for performing educational tasks.

5. Finally, what criteria are useful in assessing the quality of an application of each strategy?

a. Evaluation must meet standards of decision relevance, timeliness, comprehensiveness, credibility to the decision makers, and cost.

b. Research must meet standards of internal and external validity and of replicability.

c. Development must meet standards of function accomplishment, cost in creating the product, and involvement of the product users.

When the subtleties of these points are understood, the educator can obtain real benefit from the items cited above as the most important research contributions of the past ten years.

OCCASIONAL PAPERS

1. THE PROBLEM AND PROBLEM DELINEATION TECHNIQUES – William J. Gephart, Phi Delta Kappa. Presented at the Second National Symposium for Professors of Educational Research, sponsored by Phi Delta Kappa, Boulder, Colorado, November 21, 1968. A discussion of the nature of the concept "problem" as related to educational research with a discussion of several techniques useful in problem identification and delineation. $1.00
2. A REVIEW OF INSTRUMENTS DEVELOPED TO BE USED IN THE EVALUATION OF THE ADEQUACY OF REPORTED RESEARCH – Bruce B. Bartos, Phi Delta Kappa & Indiana University. Presented at the Annual Meeting of the American Educational Research Association, February, 1969, Los Angeles, California. A brief description and bibliographic annotation of 40 instruments developed to be used in assessing the methodological quality of completed research. $.25
3. PROFILING EDUCATIONAL RESEARCH – William J. Gephart, Phi Delta Kappa, January, 1969. The rationale for the development of a methodology profile on completed research to show its strengths and weaknesses. Included are flow charts for profiling the five facets of the research process. $.75
4. APPLICATION OF THE CONVERGENCE TECHNIQUE TO READING – William J. Gephart, Phi Delta Kappa, January, 1969. An interim report on a research program planning effort in the field of reading. (Out of Print)
5. THE CONVERGENCE TECHNIQUE AND READING: A PROGRESS REPORT – William J. Gephart, Phi Delta Kappa. Presented at the Annual Meeting of the International Reading Association, May 2, 1969, Kansas City, Missouri. A second interim report on the planning of a reading research program. (Out of Print)
6. THE EIGHT GENERAL RESEARCH METHODOLOGIES: A FACET ANALYSIS OF THE RESEARCH PROCESS – William J. Gephart, Phi Delta Kappa, July 14, 1969. The identification and description of general research methods in education through the use of Gutman's facet design and analysis technique. It also details the procedures for the Gutman technique. This paper was printed in the proceedings of the Warsaw, Poland Congress of the International Association for the Advancement of Educational Research. $1.00
7. PROFILING INSTRUCTIONAL PACKAGE – William J. Gephart & Bruce B. Bartos, Phi Delta Kappa, August, 1969. An instruction text to assist individuals with no-prior research training in the use of research profiling flow charts to assess the methodological adequacy of completed research. $1.00
8. EDUCATIONAL KNOWLEDGE USE – Gene V. Glass, Laboratory of Educational Research, University of Colorado. An analysis of the availability and use of empirically based information in education. $.50
9. MEASUREMENT AND RESEARCH IN THE SERVICE OF EDUCATION – Warren G. Findley, Research and Development Center in Educational Stimulation, University of Georgia. Originally presented as an invited address at the annual meeting of the American Educational Research Association; this paper uses an historical perspective to examine the role of measurement and research in education. $.75

10. THE EDUCATIONAL CATALYST: AN IMPERATIVE FOR TODAY – Joe H. Ward, Jr., Reeve Love, and George M. Higginson, Southwest Educational Development Laboratory, Austin, Texas, July, 1971. An analysis of the problems involved in the process of change and improvement of the practice of education. This paper poses a new professional speciality for the facilitation of empirically based educational improvements. $1.00
11. DISSERTATIONS YOU MAY WANT TO SEE - William J. Gephart, Phi Delta Kappa, 1970. A collection of dissertations done in 1969 which focus on research training. $.25
12. THE DOCTORATE IN EDUCATION IN CANADA – Neville L. Robertson, Commission on Higher Education, Phi Delta Kappa, 1971. An analysis of the institutions offering the doctorate in education in Canada. This paper is a companion piece to a larger study of similar institutions in the United States. $.75
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